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certification # 9

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

01-31-02  
Qu

In re application of: C. CONTI et al.

Application No.: 09/785,398

Filing Date: February 20, 2001

For: SUGAR WAFERS



Group Art Unit: 1761

Examiner: L. Tran

Attorney Docket No.: 88265-412

SUBMISSION OF PRIORITY DOCUMENT

Assistant Commissioner of Patents  
Washington, D.C. 20231

Sir:

Applicants have claimed priority of Great Britain Application No. 9819564.7 filed September 8, 1998, under 35 U.S.C. § 119. In support of this claim, a certified copy of said application is submitted herewith.

No fee is believed to be due for this submission. Should any fees be required, however, please charge such fees to Winston & Strawn Deposit Account No. 501-814.

Respectfully submitted,

January 16, 2002  
Date

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212-294-3311

Enclosure





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Signed *Andrew Gersey*  
Dated 15 June 1999



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(See the notes on the back of this form. You can also get  
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L  
09SEP98 E388784-3 D00032  
P01/7700 25.00 - 9819564.7  
The Patent Office

Cardiff Road  
Newport  
Gwent NP9 1RH

2. Your reference JIM/ALH/CJC/NO 6284/GB

2. Patent application number  
(The Patent Office will fill in this part)

**9819564.7**

3. Full name, address and postcode of the or of  
each applicant (underline all surnames)

Société des Produits Nestle SA  
Case Postale 353  
CH-1800 Vevey  
SWITZERLAND

Patents ADP number (if you know it)

07006737001

If the applicant is a corporate body, give the  
country/state of its incorporation

SWITZERLAND

4. Title of the invention

Wafers

5. Name of your agent (if you have one)

ELKINGTON AND FIFE

"Address for service" in the United Kingdom  
to which all correspondence should be sent  
(including the postcode)

ELKINGTON AND FIFE  
PROSPECT HOUSE  
8 PEMBROKE ROAD  
SEVENOAKS  
KENT  
TN13 1XR

Patents ADP number (if you know it)

67004

6. If you are declaring priority from one or more  
earlier patent applications, give the country  
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Country

Priority application number  
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Date of Filing  
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7. If this application is divided or otherwise  
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Number of earlier application

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Patents Form 1/77

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer "Yes" if:

Yes

- a) any applicant named in part 3 is not an inventor, or
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- c) any named applicant is a corporate body.

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Continuation sheets of this form

Description

6

Claim(s)

2

Abstract

1

Drawing(s)

10. If you are also filing any of the following, state how many against each item.

Priority documents

Translations of priority documents

Statement of inventorship and right to grant of a patent (Patents Form 7/77)

1

Request for preliminary examination and search (Patents Form 9/77)

1

Request for substantive examination (Patents Form 10/77)

Any other documents  
(please specify)

11.

I/We request the grant of a patent on the basis of this application.

Signature

*Anna-Louise Hally*

Date

8 September 1998

12. Name and daytime telephone number of person to contact in the United Kingdom

Miss Anna-Louise Hally  
01732 458881

## WAFERS

### FIELD OF THE INVENTION

- 5 The present invention relates to wafers, more particularly to sugar wafers and processes of preparing them.

### BACKGROUND OF THE INVENTION

- 10 Wafers are normally made from batter recipes using from about 20% to 60% by weight of flour, water and sucrose (which may be brown or white) together with smaller quantities of one or more ingredients typically used in a sugar wafer such as fat, milk, cream, milk powder, whole egg, egg powder, soya flour, salt, lecithin, colourant, cocoa powder, flavours, emulsifiers, vanilla crystals and a raising agent.
- 15 The flour is usually wheat flour but it may be another flour such as rice flour or a flour admixed with a starch. Wafers usually have a low fat content, normally from 1-2% but in some cases up to 10% and the main function of the fat is as an antisticking/releasing agent. Sugar wafers differ from standard wafers in containing a higher sugar content, e.g. from about 40% to 70% compared with less
- 20 than 5% for standard wafers.

- Wafers may be distinguished from biscuits/cookies in that wafers are the result of baking a batter whereas biscuits/cookies are baked out of a dough. Batter normally has a water content of more than 100 parts per 100 parts of flour and is a liquid
- 25 suspension that will flow through a pipe whereas biscuit dough is rather stiff to permit rolling and flattening and has a water content of less than 50 parts per 100 parts of flour.

- A major problem with standard sugar wafers is that they tend to lose their
- 30 crispiness with time by absorbing moisture which softens them and therefore lose their characteristic desirable textural properties. After baking the batter, there is only a limited amount of time, usually up to about 40 seconds, during which the wafers stay sufficiently flexible to allow further processing, such as modifying the shape or filling a tubular shaped wafer.

## SUMMARY OF THE INVENTION

We have found that by replacing part of the wheat flour in a wafer batter by maize or corn grits and/or replacing all or part of the sucrose with a reducing sugar, we  
5 can obtain a sugar wafer that is sufficiently flexible over a longer period of time when compared with standard sugar wafers to allow further processing while retaining its characteristic desirable crispiness when cooled. In addition, we can obtain a sugar wafer which is harder, is more crunchy and has a more coarse and gritty texture than a conventional sugar wafer.

10

According to the present invention, there is provided a sugar wafer batter in which part of the wheat flour is replaced by maize or corn grits or all or part of the sucrose is replaced by a reducing sugar.

15

## DETAILED DESCRIPTION OF THE INVENTION

The amount of water in the sugar wafer batter of the present invention is usually from 100 to 160 parts and more preferably from 120 to 140 parts by weight per  
20 100 parts by weight of the flour or, where part of the wheat flour is replaced by maize or corn grits, per 100 parts of the total weight of the wheat flour and corn or maize grits.

The amount of sucrose or, where all or part of the sucrose is replaced by a reducing sugar, the total amount of sucrose and reducing sugar in the sugar wafer  
25 batter of the present invention is usually from 50 to 100 parts and more preferably from 60 to 85 parts by weight per 100 parts by weight of the flour or, where part of the wheat flour is replaced by maize or corn grits, per 100 parts of the total weight of the wheat flour and corn or maize grits.

30

In a first embodiment of this invention, up to 90% by weight of the wheat flour in a standard sugar wafer batter may be replaced by the maize or corn but preferably from 20% to 60% and more preferably from 25% to 45% by weight of the wheat flour may be replaced by the maize or corn grits.

Corn grits are also known as corn meal which is a ground product obtained by dry milling the endosperm of corn. The particle sizes typically vary from about 100 microns to about 1mm, and more usually from 150 to 500 microns.

5 Alternatively, in a second embodiment of this invention, all or part of the sucrose in a standard sugar wafer batter may be replaced by a reducing sugar. For example, from 15 to 80% by weight of the sucrose may be replaced by the reducing sugar but preferably from 20% to 50% and more preferably from 25% to 40% by weight of the sucrose may be replaced by the reducing sugar. The  
10 reducing sugar may be, for example, fructose, glucose, glucose syrup, dextrose, corn syrup, invert sugar, fruit juices containing reducing sugars such as grape juice, or honey.

15 Advantageously, both part of the flour in a standard sugar wafer batter is replaced by maize or corn grits and part of the sucrose in a standard sugar wafer batter is replaced by a reducing sugar.

The sugar wafers may be prepared by baking a sugar wafer batter according to the invention as hereinbefore described. The sugar wafer batter may be baked by  
20 conventional methods, for example, using a baking oven, a baking machine, a moulding cone, baking plates, or on the surface of a sugar wafer drum well known to those skilled in the art to give the sugar wafer. The baking temperature may be from 140°C to 180°C, preferably from 150°C to 170°C and more usually from 160°C to 165°C. The baking may be carried out over a period of from 0.5 to 2  
25 minutes and preferably from 0.75 to 1.5 minutes.

Accordingly, the present invention also provides a sugar wafer in which part of the flour is replaced by maize or corn grits or all or part of the sucrose is replaced by a reducing sugar.

30 The amount of water in the sugar wafer according to the present invention is usually from about 0.5% to 6% and preferably from 0.75 to 3% by weight based on the total weight of the sugar wafer.

35 The remaining ingredients of the sugar wafer according to the present invention, based on the weight of the wheat flour or, where part of the wheat flour is

replaced by maize or corn grits, per 100 parts of the total weight of the wheat flour and corn or maize grits, remain substantially the same.

5 The total amount of water, fat, wheat flour and sucrose together with their replacements in the sugar wafer usually accounts for at least 95%, e.g. from 96% to 98% by weight of the sugar wafer. The remaining ingredients include one or more ingredients typically used in a sugar wafer such as milk, cream, milk powder, whole egg, egg powder, soya flour, salt, lecithin, a colourant such as caramel colour, cocoa powder, flavours, emulsifiers, vanilla crystals and a raising agent.

10 The sugar wafers according to the present invention may have a variety of shapes and sizes, e.g. they may be flat sheets, cup or cone-shaped or they may be tubular. If desired, the sugar wafers may be further processed after baking, e.g. they may be crimped, pressed or shaped in a mould. They may be used in a variety of confectionery products together with confectionery materials such as ice creams or chocolates or other fatty materials such as fat-based cream. The tubular wafers may be filled with confectionery materials preferably of low water activity so that a minimum of moisture migration occurs, e.g. savoury filling, ice cream or fat-based creams containing yoghurt. The sugar wafers of the present invention are sufficiently flexible under ambient conditions after baking for more than 40 seconds, usually for more than 50 seconds, e.g. up to 70 seconds or more to enable further processing.

25 The present invention further provides a confectionery product comprising a sugar wafer according to the present invention together with a confectionery material.

30 The sugar wafer may be used in direct contact with confectionery material or, if desired, a moisture barrier may be used between the surface of the sugar wafer and the other confectionery material, e.g. the moisture barrier may conveniently be coated on the surface of the sugar wafer adjacent the confectionery material. Any conventional food-acceptable moisture barrier may be used, but preferably a fat-based moisture barrier such as chocolate or chocolate substitute may be used.

When the confectionery product comprising the sugar wafer is used in direct contact with a confectionery material, the confectionery material preferably has a low water activity, e.g. a water activity below 0.5 and preferably below 0.3.

- 5 The confectionery product comprising the sugar wafer may, if desired, be enrobed with another suitable confectionery material, for example, with plain, white or milk chocolate or with chocolate substitute.

10 The confectionery product comprising the sugar wafer may be refrigerated or frozen.

### EXAMPLES

15 The following Examples further illustrate the present invention

#### Example 1

A sugar wafer batter is prepared having the following ingredients:

20	Water	41.8%
	Wheat flour	19.4%
	Corn grits	12.9%
	Brown sugar	15.3%
	Honey	7.9%
25	*Other ingredients	2.7%

\* includes milk powder, egg powder, soya flour, salt, lecithin and vanilla crystals.

30 The above batter is fed as a suspension onto the surface of a drum of a wafer baking machine and baked at 162°C for 1 minute to form a wafer sheet having a water content of below 5% by weight. The wafer sheet is then passed to a spindle and rolled to form a tube. The tube is filled with a fat-based cream containing yoghurt, closed at each end and shaped mechanically as desired. The wafer is sufficiently flexible over a period of 60 seconds after baking which allows this  
35 further processing. The tube is finally enrobed with a layer of plain chocolate.

The product is then refrigerated.

On eating, a panel of expert tasters found that the wafer was harder, more crunchy and had a more coarse and gritty texture than a conventional sugar wafer.

## CLAIMS

1. A sugar wafer batter in which part of the wheat flour is replaced by maize or corn grits or all or part of the sucrose is replaced by a reducing sugar.  
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2. A sugar wafer batter according to claim 1 in which the amount of water in the sugar wafer batter of the present invention is from 100 to 160 parts by weight per 100 parts by weight of the flour or, where part of the wheat flour is replaced by maize or corn grits, per 100 parts of the total weight of the wheat flour and corn or  
10 maize grits.
3. A sugar wafer batter according to claim 1 in which the amount of sucrose or, where part of the sucrose is replaced by a reducing sugar, the total amount of sucrose and reducing sugar in the sugar wafer batter is from 50 to 100 parts by  
15 weight per 100 parts by weight of the flour or, where part of the wheat flour is replaced by maize or corn grits, per 100 parts of the total weight of the wheat flour and corn or maize grits.
4. A sugar wafer batter according to claim 1 in which up to 90% by weight of the  
20 wheat flour in a standard sugar wafer batter is replaced by the maize or corn grits.
5. A sugar wafer batter according to claim 1 in which from 15% to 80% by weight of the sucrose is replaced by the reducing sugar.
- 25 6. A sugar wafer batter according to claim 1 in which the reducing sugar is fructose, glucose, glucose syrup, dextrose, corn syrup, invert sugar, fruit juices containing reducing sugars such as grape juice, or honey.
- 30 7. A sugar wafer batter according to claim 1 in which both part of the wheat flour in a standard sugar wafer batter is replaced by maize or corn grits and all or part of the sucrose in a standard sugar wafer batter is replaced by a reducing sugar.
8. A process for preparing a sugar wafer which comprises baking a sugar wafer batter according to claim 1.  
35

9. A sugar wafer in which part of the wheat flour is replaced by maize or corn grits or all or part of the sucrose is replaced by a reducing sugar.
- 5 10. A sugar wafer according to claim 9 in which the amount of water in the sugar wafer is from about 0.5% to 6% by weight based on the total weight of the sugar wafer.
- 10 11. A sugar wafer according to claim 9 in which the total amount of water, fat, wheat flour and sucrose together with their replacements accounts for at least 95% by weight of the sugar wafer and the remaining ingredients include one or more of milk, cream, milk powder, whole egg, egg powder, soya flour, salt, lecithin, vanilla crystals and a raising agent.
- 15 12. A sugar wafers according to claim 9 which is sufficiently flexible under ambient conditions after baking for more than 40 seconds to enable further processing.
- 20 13. A confectionery product comprising a sugar wafer according to claim 9 together with a confectionery material.
14. A confectionery product according to claim 13 wherein the sugar wafer is used in direct contact with confectionery material.
- 25 15. A confectionery product according to claim 13 wherein a moisture barrier is used between the surface of the sugar wafer and the other confectionery material.
16. A confectionery product according to claim 15 wherein the moisture barrier is coated on the surface of the sugar wafer adjacent the confectionery material.
- 30 17. A confectionery product according to claim 14 wherein when the sugar wafer is used in direct contact with a confectionery material, the confectionery material has a water activity below 0.5.
- 35 18. A confectionery product according to claim 13 wherein the confectionery product comprising the sugar wafer is enrobed with plain, white or milk chocolate or with chocolate substitute.

## ABSTRACT

### WAFERS

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A sugar wafer and a sugar wafer batter in which part of the wheat flour is replaced by maize or corn grits or all or part of the sucrose is replaced by a reducing sugar as well as confectionery products comprising them.

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